

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/005014

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>7</sup> C10M105/04, 177/00, C10G2/00, 45/64, 65/04, 67/04//C10N20:00,  
30:02, 60:00, 70:00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>7</sup> C10M105/04, 177/00, C10N20:00, 30:02, 60:00, 70:00,  
C10G2/00, 45/58-45/70, 65/02-65/12, 67/02-67/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2005  
Kokai Jitsuyo Shinan Koho 1971-2004 Toroku Jitsuyo Shinan Koho 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2003-517495 A (Exxon Research & Engineering Co.), 27 May, 2003 (27.05.03), & DE 69902926 T2 & EP 1102827 A1 & US 6008164 A & WO 00/08115 A1	1-4 5-9
X Y	JP 2002-524605 A (Exxon Research & Engineering Co.), 06 August, 2002 (06.08.02), & AU 9956901 A & BR 9913394 A & EP 1114124 A1 & KR 2001099637 A & NO 200100999 A & US 6080301 A & US 6420618 B1 & WO 00/14179 A1	1-4 5-9

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search  
10 June, 2005 (10.06.05)

Date of mailing of the international search report  
28 June, 2005 (28.06.05)

Name and mailing address of the ISA/  
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PCT/JP2005/005014

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2002-524610 A (Exxon Research & Engineering Co.), 06 August, 2002 (06.08.02), & AU 9956939 A & BR 9913396 A & EP 1114131 A2 & KR 2001099636 A & NO 200101124 A & US 6475960 B1 & WO 00/14187 A1	1-4 5-9
X Y	JP 2002-524611 A (Exxon Research & Engineering Co.), 06 August, 2002 (06.08.02), & AU 9956902 A & BR 9913410 A & EP 1114132 A2 & KR 2001089181 A & NO 200101123 A & US 6165949 A & US 2002/0086803 A1 & WO 00/14188 A2	1-4 5-9
X Y	JP 2002-538232 A (Exxon Research & Engineering Co.), 12 November, 2002 (12.11.02), & AU 9956808 A & BR 9913583 A & EP 1144551 A2 & KR 2001089249 A & NO 200101245 A & US 6332974 B1 & WO 00/15736 A2	1-4 5-9
Y	JP 10-510565 A (Mobil Oil Corp.), 13 October, 1998 (13.10.98), & AU 9644663 A & EP 796304 A1 & KR 98700396 A & US 5643440 A & WO 96/17902 A1	5-9
Y	WO 02/070627 A2 (SHELL INTERNATIONALE RESEARCH MAATSHAPPIJ B.V.), 12 September, 2002 (12.09.02), & AU 2002247753 A & BR 200207888 A & EP 1366134 A2 & JP 2005-506396 A & MX 2003007977 A & NO 200303906 A & US 2004/0079678 A1	5-9
Y	WO 02/070629 A1 (SHELL INTERNATIONALE RESEARCH MAATSHAPPIJ B.V.), 12 September, 2002 (12.09.02), & AU 2002256645 A & BR 200207891 A & EP 1366135 A1 & JP 2004-528426 A & MX 2003007991 A & NO 200303903 A & US 2004/0045868 A1	5-9